

STATE OF COLORADO

COLORADO DEPARTMENT OF HEALTH

Dedicated to protecting and improving the health and environment of the people of Colorado

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Roy Romer
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Modification of Work

to

U. S. Department of Energy

Rocky Flats Plant

Federal Facility Agreement and Consent Order

(the Interagency Agreement)

as signed

January 22, 1991

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RATIONALE: On September 30, 1993 the Project Coordinators signed a dispute resolution agreement per Part 12 of the IAG to resolve a formal dispute initiated by the DOE on June 2, 1993. The subject of the dispute was CDH's refusal to grant, fully, a requested eleven month extension for submittal of the Solar Evaporation Ponds (OU-4) draft and final RFI/RI Reports. Resolution of the dispute resulted in a streamlining of the administrative process without substantive change to the technical scope of the IAG. However, the agreement eliminated the draft and final RFI/RI Reports, IM Design Workplan, and the IM/IRA Implementation Document as stand alone deliverables; set an expedited schedule for the RCRA closure of the ponds; and established a sludge removal milestone for inclusion in the IAG.

MODIFICATIONS:

The RFI/RI Report, IM Design Workplan, and the IM/IRA Implementation Document, as stand alone deliverables, are hereby eliminated. The revised and additional dates are:

Submit Draft Proposed IM/IRA DD (w/RFI/RI Report Components and Enhanced Conceptual Design)	4/14/94 (unchanged)
Submit Proposed IM/IRA DD	6/24/94
Submit IM/IRA Responsiveness Summary	11/1/94
Submit Final IM/IRA DD and Final Responsiveness Summary	1/13/95
All Solar Ponds Emptied of Water and Sludge	1/20/95
Submit Final IM/IRA Title II Design (w/Implementation Document Component)	2/10/95
Begin IM/IRA (RCRA Closure) Construction	9/27/95

Elimination of the aforementioned deliverables requires redefinition of the administrative process for the expedited RCRA closure of the Solar Evaporation Ponds. Consequently:

- o The IM Design Workplan is hereby replaced by a participatory process to allow direct agency interaction in establishing subordinate schedules and tasks.
- o The IM/IRA Implementation Document is hereby incorporated into the Final IM/IRA Title II Design Document.
- o Attached, and incorporated by reference, are Attachment 1, "IAG Milestones" and Attachment 2 "Operable Unit 4 IM/IRA Program Draft Annotated Outline of IM/IRA DD".
 - *) Attachment 1, in addition to showing the above modified dates as proposed dates, specifies the general content or commitment for the remaining deliverables.
 - *) Attachment 2 describes the specific content outline, subject to mutually agreed modification, for the IM/IRA Decision Document including the addition of RFI/RI Report components as a formal "Part" of the document.

By their signatures below, each undersigned representative agrees on behalf of their respective parties to modify the subject agreement as set forth above.

for the Colorado Department of Health

Date

for the U. S. Environmental Protection Agency

Date

for the U. S. Department of Energy

Date

IAG MILESTONES

Dates proposed are DOE's due-dates to CDH and EPA. DOE will have already reviewed these deliverables and EG&G's response to DOE comments from those reviews. These DOE review loops are being included in the accelerated IM schedule. EG&G expects to deliver the DOE-approved document to the regulators on the dates shown. DOE will provide the corresponding transmittal letters to EG&G prior to or on the due-date.

Draft Phase I RFI/RI Report:

Proposed: delete IAG: 5/21/93

Final Phase I RFI/RI Report:

Proposed: delete IAG: 10/18/93

(1) Draft Phase I Proposed IM/IRA DD:

Proposed: 4/14/94 IAG: 4/14/94

This deliverable will include all items described in the draft annotated outline for the IM/IRA Decision Document, which is attached. The options to be included in the document will be established through interactive meetings of EG&G, DOE, EPA, and CDH staff; these meetings will be documented for the Administrative record through meeting minutes or other appropriate means. A 40% design is included in the draft. Unvalidated data will be used. Comments on the submittal are intended to improve clarity for review by the public. All substantive regulator input was presented in the round table review loop, and this set of comments will be editorial in nature. (WBS 71721)

Any additional investigation data, such as from vertical drilling through Pond 207C, and evaluation of that data will be incorporated into the DD as an amendment at a later time. (EG&G may include such data in the DD if the data is available in time for inclusion without impacting the DD schedule). The amendment schedule will not be specified in the dispute resolution. (WBS 71732)

The 40% design component of the DD will include:

- 1) A description of the selected alternative
- 2) A preliminary set of drawings which will include:
 - a. site plan showing the structures that will be removed
 - b. site plan showing utilities that will be removed and utilities that will be re-routed
 - c. site plan showing the extent of the engineered cover
 - d. cross section of the engineered cover
- 3) Waste management plan
 - a. waste flow diagram
 - b. If a waste storage facility is required, then the following drawings will be included:
 1. civil site plan

2. facility section and details
3. facility plan
- c. If a waste treatment facility is required, then the following drawings will be included:
 1. process flow diagram
 2. facility layout (not equipment arrangement)
 3. materials and equipment list
- d. Identification and description of any required engineering/treatment studies
- e. Construction quality assurance plan
- 4) An outline of the specification package
- 5) A preliminary project construction schedule
- 6) A preliminary cost estimate (50% contingency)
 - a. capital cost
 - b. operating costs

(2) Phase I Proposed IM/IRA DD:

Proposed: 6/24/94

IAG: 9/12/94

DD with revisions based on comments from DOE, EPA, and CDH reviews of the draft Phase I Proposed IM/IRA DD and a 40% design. Approximately 30% data validation will be included for the RFI report data. This document is the version to be submitted to the public for their review and comment.

(3) IM/IRA Responsiveness Summary:

Proposed: 11/1/94

IAG: 1/25/95

Response to the public comments. A single response may be used for a group of related comments. (WBS 71742)

(4) Final IM/IRA & Final Responsiveness Summary:

Proposed: 1/13/95

IAG: 4/24/95

DD with revisions based on the responses to public comments and agency review of the IM/IRA Responsiveness Summary. While revisions to the design necessitated by public comment will be included, the design will be at the 40% level. A revised Responsiveness Summary, based on CDH and EPA review of the IM/IRA Responsiveness Summary, will be included in the DD. (WBS 71752)

IM Design Work Plan:

Proposed: Delete

IAG: 5/24/95

(5) Final IM Title II Design:

Proposed: 2/10/95

IAG: 6/24/96

The document will present the final Title II design package of drawings, specifications, design analyses as appropriate, and the cost estimate will be included with the implementation document in the same deliverable. The document is intended for implementation by a knowledgeable subcontractor, and does not include introductions or other narratives. (WBS 83100)

IM/IRA Implementation Document:

Proposed: Delete

IAG: 2/26/96

(*) Solar Ponds Emptied of Water & Sludge

Proposed: 1/20/95

IAG: None

Waste water and sludge removed from ponds, ponds rinsed and dry of other than incidental rain water. This work is being performed as part of the Accelerated Sludge Removal Project.

(6) Begin IM/IRA Construction

Proposed: 9/27/95

IAG: 1/28/97

Award of construction contract commences the construction phase of the project. However, this milestone is met after contractor training and mobilization when the first physical site construction work begins (WBS 24000).

September 9/24/93

Rev 5

OPERABLE UNIT 4 IM/IRA PROGRAM
DRAFT ANNOTATED OUTLINE OF IM/IRA DD

OBJECTIVE (2 pages)

Concise statement of objective for the remedy.

INTRODUCTION (25 pages)

General information describing the Rocky Flats Plant and location, the intent of the IM/IRA project, the uniqueness of this project, dispute resolution process and chronology of events, regulatory criteria/issues associated with the Interagency Agreement (IAG) and the Solar Evaporation Ponds (SEP).

BACKGROUND (20 pages)

Information specifically pertaining to the SEP and possibly RFP, if appropriate/needed. This section will describe the overall use of the ponds, when they were constructed, the construction chronology, construction material, types of waste streams and constituents.

PART I

RCRA FACILITIES INVESTIGATION/REMEDIAL INVESTIGATION

Site Investigation (30-35 pages)

The OU 4 site investigation will describe the objectives/rationale for drilling, sampling, geophysical surveys, radiological surveys, vadose zone equipment installation, surficial soil sampling, analytical methodologies, etc.

Summary of the Phase I RFI/RI Data (40-45 pages)

This section will present, in a summary format, the data from the OU 4 Phase I RFI/RI Program. Various data will include, but may not be limited to, radiological characterization, geophysical characterization, surficial and subsurface characterization, geologic characterization, and vadose zone characterization. The "raw" data will be incorporated into appendices.

Nature and Extent of Contamination for Source and Soils (20-25 pages)

This section will be our interpretations of the data. This section will only discuss the nature and extent of contamination associated with the source and soils, as required in the IAG. Hazardous substance areas showing risk levels in excess of 10-6 will be identified.

Contaminant Transport and Fate (60-80 pages)

This section will present a conceptual model, contaminant behavior and mobility, and contaminant migration pathways.

Summary and Conclusions (20 pages)

This section will summarize our understanding/interpretations of the nature and extent-of-contamination-associated-with-the-Solar-Evaporation-Ponds/Operable Unit 4.

PART II

INTERIM MEASURE/INTERIM REMEDIAL ACTION DECISION DOCUMENT

Analysis of Dirty Closure vs Clean Closure/Hybrid Closure (30 pages)

This section will discuss the feasibility of clean closure and dirty closure from a regulatory, technical, and cost perspective. Also, this section will provide the rationale for the selected closure option (clean vs dirty). In general, this section will be the "bridge" from the Phase I RFI/RI to the Phase I IM/IRA.

Remedial Options Selection Criteria (20 pages)

This section will establish the criteria which will be utilized in for evaluation of the remedial options and in selecting the proposed remedy.

Remedial Options Analysis (100 pages)

This section will be the "core" of the IM/IRA DD. This section will present the remedial options evaluated against the selection criteria.

Selected Remedy (20 pages)

This section will present the selected remedy for closure of the ponds and provide the basis and justification for the selected alternative. This section may also include quantitative/qualitative modelling in support of defining the effectiveness of the selected alternative, and explanation of how the selected remedy will be consistent with Phase II for OU 4.

Identification and analysis of ARARs (20-25 pages)

This section will present the ARARs which are directly relevant, if appropriate, to the selected alternative.

Risk Assessment (70-80 pages)

This section will present a methodology and results associated with the risk of the selected remedy. In general, a risk analysis will be conducted for the selected remedy. Areas with risk levels above 10^{-6} will be addressed.

PART III

CONCEPTUAL DESIGN

Design Components (30 pages)

This section will present the "engineering" components associated with the selected alternative, ie., geomembrane, clay material, sand material, etc.

Conceptual Design (50 pages)

This section will be the first stage in the engineering drawings for the selected alternative. This will eliminate the IM Design Work Plan and the Title I as separate packages, and provide a 10% design level in the draft and 40% design level in the final IM/IRA DD.

PART IV

PERFORMANCE MONITORING and FURTHER EVALUATION

Performance Monitoring and Assessment of Selected Alternative

This subsection will describe the general content and requirements of the performance monitoring and assessment program for the recommended alternative. Precise locations for the actual monitoring equipment will not be able to be provided prior to completion of the final design.

Evaluation of the Effectiveness of the ITS (35 pages)

This section will present a historical overview of the ITS, the ITS configuration, design, and storage capacity available water balance data, analysis of ITS water balance, and evaluation of system efficiency.

Data Evaluation (100-150 pages)

This section will present the data, in summary format, which was evaluated in support of designing the field sampling plan. The data which is expected to be evaluated includes the RCRA ground water monitoring data, Phase I RFI/RI data, historical data, etc. This section will include a summary of the OU 4

previous investigations with the purpose of identifying data gaps needed to complete a ROD.

Data Quality Objectives (20 pages)

This section will define the OU 4 data-gaps and provide a rationale for the data quality objectives for subsequent characterization.

Field Sampling Plan (200 pages)

This section will present the methodologies utilized for supporting "plume delineation" associated with the alluvial ground water system and bedrock ground water system. It will include the standard requirements for collecting ground water samples, possible pumping tests, tracer tests, analytical methodologies, etc.

Baseline Risk Assessment Work Plan (80 pages)

This section will include the standard BRA WP requirements for a complete BRA. However, the BRA WP will be for the HHRA and not the ecology.

Quality Assurance/Quality Control (20 pages)

Standard QA/QC section required for all field activities.

PART V

D&D of Building 788

This section will describe work needed to close the two RCRA units in B788, decontaminate the structure if necessary, and demolish the structure. Support structures such as the clarifier tank and cement silos are included in the effort. The potential for decontaminating the structure to allow disposal of the rubble as non-hazardous waste will be included as appropriate

Note: The number of pages are only an estimate and do not include figures, tables, graphs, charts, etc.

Appendix A - Analytical Data

Appendix B - Applicable or Relevant and Appropriate Requirements

Chemical Specific Requirements

Location Specific Requirements

Action Specific Requirements

Appendix C - Toxicological Profiles for the Contaminants of Concern
Appendix D - Risk Analysis Calculations (selected remedy)
Appendix E - Design Sketches (enhanced conceptual)
Appendix F - Outline Specifications
Appendix G - Cost Estimate Details
Appendix H - Performance Monitoring and Assessment Conceptual Plan
Appendix I - Reserved for supplemental information on potential environmental impacts
~~Attachment-1--Combined-IM/IRA-and-NEPA-Responsiveness-Summary-(Final-Only)~~

List of Tables/Figures
List of Acronyms and Abbreviations

September 14, 1993
4:00 P. M.